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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,472	02/08/2002	Attilio Rimoldi	005826.P002	9971

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EXAMINER	
JONES, HUGH M	

ART UNIT	PAPER NUMBER
2128	

MAIL DATE	DELIVERY MODE
05/11/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/071,472	RIMOLDI ET AL.	
	Examiner	Art Unit	
	Hugh Jones	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-30 of U. S. Application 10/071,472, filed 02/08/2002, are pending.

Applicants are thanked for the amendment and arguments.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claims 1-30 are rejected under 35 U.S.C. 101 as being directed to nonstatutory subject matter since the claims as a whole do not provide for a practical application:** The claims are nonstatutory because they are directed to abstract ideas, namely solving a plurality of mathematical equations to generate mathematical representations for hypothetical objects. See Diamond v. Diehr, 450 U.S. 175 (1981):

> A mathematical formula does not suddenly become patentable subject matter simply by having the applicant acquiesce to limiting the reach of the patent for the formula to a particular technological use. A mathematical formula in the abstract is nonstatutory subject matter regardless of whether the patent is intended to cover all uses of the formula or only limited uses. Similarly, a mathematical formula does not become patentable subject matter merely by including in the claim for the formula token post-solution activity such as the type claimed in Flook. Id. at 192 n.14

And see Diehr, 450 U.S. at 191-92

> "insignificant post-solution activity will not transform an unpatentable principle into a patentable process. To hold

> otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection."

See also MPEP 2106 IV.C.3:

> **3. Determine Whether the Claimed Invention Preempts a 35 U.S.C. 101 Judicial Exception (Abstract Idea, Law of Nature, or Natural Phenomenon)**
>
> Even when a claim applies a mathematical formula, for example, as part of a seemingly patentable process, USPTO personnel must ensure that it does not in reality "seek[] patent protection for that formula in the abstract." *Diehr*, 450 U.S. at 191, 209 USPQ at 10. "Phenomena of nature, though just discovered, mental processes, abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work." *Benson*, 409 U.S. at 67, 175 USPQ at 675. One may not patent a process that comprises every "substantial practical application" of an abstract idea, because such a patent "in practical effect would be a patent on the [abstract idea] itself." …
> Thus, a claim that recites a computer that solely calculates a mathematical formula (see Benson) or a computer disk that solely stores a mathematical formula is not directed to the type of subject matter eligible for patent protection. If USPTO personnel determine that the claimed invention preempts a 35 U.S.C. 101 judicial exception, they must identify the abstraction, law of nature, or natural phenomenon and explain why the claim covers every substantial practical application thereof.

4. To the extent that Applicants may argue that a practical application is claimed, it appears that Applicants seek in these claims to pre-empt use of the equations themselves and preempt every substantial application. As noted in MPEP 2106:

> Even when a claim applies a mathematical formula, for example, as part of a seemingly patentable process, USPTO personnel must ensure that it does not in reality seek[]patent protection for that formula in the abstract." Diehr, 450 U.S. at 191, 209 USPQ at 10. … One may not patent a process that comprises every "substantial practical application" of an abstract idea, because such a patent "in practical effect would be a patent on the [abstract idea] itself." *Benson*, 409 U.S. at 71-72, 175 USPQ at 676; *cf. Diehr*, 450 U.S. at 187, 209 USPQ at 8 ... "*To hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection.*" *Diehr*, 450 U.S.

Allowable Subject Matter

5. Claims 1-30 are allowed over the prior art of record, and will be allowed once all other rejections/objections are traversed.

6. The following is a statement of reasons for the indication of allowable subject matter: The new features in the amended limitations, in view of the definitions in the specification as per Applicant's arguments on pp. 8-9 of the remarks of 8/21/2008, are novel and nonobvious over the prior art of record.

Response to Arguments

7. Applicant's arguments, filed 3/23/2009, have been carefully considered and are not persuasive. All rejections/objections are withdrawn in view of the amendment *except* for the 101 rejections because the claims are drawn to abstract ideas.

8. Applicants have clearly disavowed any embodiments that could encompass "signal" and "carrier wave" embodiments (see amendment to the specification and Applicant's remarks (page 11, 3/23/2009). The method claims appear to be proper process claims, but they are still directed to abstract ideas.

9. Applicants argue the 101 rejections on pp. 10-12.

10. The claims are not statutory - a "digital model" of an *unknown and undefined generic hypothetical* "object" is an abstract idea as is mathematical manipulation of said abstract model. It appears that Applicants seek in these claims to pre-empt use of the equations themselves – mathematical manipulation of undefined, generic models - and preempt every substantial application. As noted in MPEP 2106:

> Even when a claim applies a mathematical formula, for example, as part of a seemingly patentable process, USPTO personnel must ensure that it does not in reality seek[]patent protection for that formula in the abstract." Diehr, 450 U.S. at 191, 209 USPQ at 10. … **One may not patent a process that comprises every "substantial practical application" of an abstract idea**, because such a patent "in practical effect would be a patent on the [abstract idea] itself." *Benson*, 409 U.S. at 71-72, 175 USPQ at 676; *cf. Diehr*, 450 U.S. at 187, 209 USPQ at 8 ... "*To hold otherwise would allow a competent draftsman to evade the recognized limitations on the type of subject matter eligible for patent protection.*" *Diehr*, 450 U.S.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hugh Jones whose telephone number is (571) 272-3781. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571) 272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hugh Jones/
Primary Examiner, Art Unit 2128